

Claims

1. A heterocyclecarboxamide derivative represented by the general formula (I) or a salt thereof.

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[wherein the symbols in the formula have the following meanings.

A: a lower alkylene which may have substituent(s), an arylene which may have substituent(s), a heteroarylene which may have substituent(s), or a cycloalkylene which may have substituent(s);

X: NR⁴, CONR⁴, NR⁴CO, O, or S;

a dotted line between Y and Z: presence (Y=Z) or absence (Y-Z) of a bond;

Y-Z: N(R⁵)-C(O), C(O)-N(R⁵), N(R⁵)-N(R⁵), or C(O)-C(O);

Y=Z: N=C(R⁶), C(R⁷)=N, N=N, or C(R⁷)=C(R⁷);

R¹, R⁴: H, a lower alkyl, -CO-lower alkyl, or -SO₂-lower alkyl;

20 R²: H, a lower alkyl, a halogen, a lower alkyl substituted by halogen(s), -O-lower alkyl, -S-lower alkyl, -O-aryl, -O-lower alkylene-aryl, -S-lower alkylene-aryl, nitro, or cyano group;

R³: -CO₂H, -CO₂-lower alkyl, -lower alkylene-CO₂H, -lower

25 alylene-CO₂-lower alkyl, -CONHOH, -CONHO-lower

Sub A
alkyl, -lower alkylene-CONHOH, -lower alkylene-CONHO-lower alkyl, -NH₂, -(NH₂ in a prodrug form), -lower alkylene-NH₂, or -lower alkylene-(NH₂ in a prodrug form);

R⁵: the same or different, H or a lower alkyl group;

5 R⁶: a lower alkyl, -OH, -O-lower alkyl, -O-aryl which may have substituent(s), -O-lower alkylene-aryl which may have substituent(s), -NR¹-aryl which may have substituent(s), -CO-lower alkyl, or -aryl group which may have substituent(s);

10 R⁷: the same or different, H or the same group as R⁶]

2. The compound or a salt thereof according to

claim 1, wherein X is NR⁴ and A is a lower alkylene or cycloalkylene.

3. The compound or a salt thereof according to

15 claim 2, wherein Y=Z is N=C(R⁶), C(R⁷)=N, or C(R⁷)=C(R⁷).

4. The compound or a salt thereof according to

claim 1, wherein the compound is selected from 6-(2-aminoethylamino)-2-(3-ethylanilino)pyridine-3-carboxamide, 6-(2-aminoethylamino)-2-(3-trifluoromethylanilino)pyridine-

20 3-carboxamide, 2-(2-aminoethylamino)-4-hydroxy-6-(3-methylanilino)pyrimidine-5-carboxamide, 6-(cis-2-aminocyclohexylamino)-2-(3-methylanilino)pyridine-3-carboxamide, 6-(cis-2-aminocyclohexylamino)-2-(3,5-

dimethylanilino)pyridine-3-carboxamide, 5-(cis-2-

25 5-(cis-2-aminocyclohexylamino)-3-(3-methylanilino)pyrazine-2-carboxamide, 5-(cis-2-aminocyclohexylamino)-3-(3-methoxyanilino)pyrazine-2-carboxamide, 5-(cis-2-

aminocyclohexylamino)-3-(3-phenoxyanilino)pyrazine-2-carboxamide, 5-(cis-2-aminocyclohexylamino)-3-(4-methylsulfonylanilino)pyrazine-2-carboxamide, 5-(cis-2-aminocyclohexylamino)-3-(3,5-dimethoxyanilino)pyrazine-2-carboxamide, 2-(cis-2-aminocyclohexylamino)-4-hydroxy-6-(3-methylanilino)pyrimidine-5-carboxamide, 2-(cis-2-aminocyclohexylamino)-4-(3-bromoanilino)-6-hydroxypyrimidine-5-carboxamide, and 2-(cis-2-aminocyclohexylamino)-4-(2-chlorophenoxy)-6-(3-methylanilino)pyrimidine-5-carboxamide.

5. A pharmaceutical composition which comprises the compound according to claim 1 or a salt thereof and a pharmaceutically acceptable carrier.

6. A pharmaceutical composition which comprises the compound according to claim 1 which is a Syk inhibitor 15 or a salt thereof and a pharmaceutically acceptable carrier.

Abstract

A nitrogen-containing six-membered heterocyclic compound having substituents -X-A-R³, -N(R¹)-(Ph substituted by R²), and -CONH₂, or a salt thereof.

5 (The symbols have the following meanings.

A: a lower alkylene which may have substituent(s), an arylene which may have substituent(s), a heteroarylene which may have substituent(s), or a cycloalkylene which may have substituent(s);

10 X: NR⁴, CONR⁴, NR⁴CO, O, or S;

R¹, R⁴: H, a lower alkyl, -CO-lower alkyl, or -SO₂-lower alkyl;

R²: H, a lower alkyl, a halogen, a lower alkyl substituted by halogen(s), -O-lower alkyl, -S-lower alkyl, -O-aryl, -O-

15 lower alkylene-aryl, -S-lower alkylene-aryl, nitro, or cyano group;

R³: -CO₂H, -CO₂-lower alkyl, -lower alkylene-CO₂H, -lower alkylene-CO₂-lower alkyl, -CONHOH, -CONHO-lower alkyl, -lower alkylene-CONHOH, -lower alkylene-CONHO-lower alkyl, -NH₂, -(NH₂ in a prodrug form), -lower alkylene-NH₂, or -lower alkylene-(NH₂ in a prodrug form))